

Set	Items	Description
S1	17564996	S DOCUMENT? OR OBJECT? OR DATASET? OR DATAOBJECT? OR HIT OR HITS OR RESULT? OR RETRIEV?
S2	6616060	S OUTCOME? OR REPLY? OR REPLIE? OR REPORT? OR READING? OR FEEDBACK? OR (FEED??? OR FED) ()BACK?
S3	3719754	S SOFTWARE()OBJECT? OR DATABASE? OR DOMAIN? OR COLUMN? OR TABLE? OR DATAOBJECT? OR DATASTRUCTUR? OR DATAVALUE?
S4	165810	S DATA() (ENTIT? OR STRUCTUR?) OR OBJECTMODEL? OR OBJECT()MODEL? OR DATARECORD? OR DATA()RECORD?
S5	5181	S DATACOMMAND? OR DATAORDER? OR DATAUNIT? OR DATA()UNIT? OR DATA()MESSAG? OR DATA() INSTRUCT
S6	45884	S DATABYTE? OR DATABLOCK? OR DATA() (BLOCK? OR REQUEST? OR INPUT? OR TYPE? OR MEMBER? OR VALUE?) OR DATATYPE?
S7	2145889	S RANK? OR SORT??? OR PRIORIT? OR HIERARCH? OR HIERAT? OR TOTEM()POLE? OR PECKING()ORDER? OR TAXONOM? OR FILTER?
S8	478409	S QUERY? OR ASK OR ASKS OR ASKED OR ASKING OR INQUIR? OR INTERROGAT? OR DATAMIN? OR DATA() (MINE? OR MINING)
S9	10515378	S SEARCH? OR FIND? OR LOCAT? OR RESEARCH? OR FETCH? OR LOOK? ()UP OR LOOKUP? OR SELECT? OR CULL? OR FERRET?
S10	5984081	S S1:S6 AND S7:S9
S11	985660	S S1:S6 AND S7
S12	459050	S RULE? OR PROTOCOL? OR PARAMETER? OR TRAIT? OR CHARACTERISTIC? OR MODEL? OR STANDARD?
S13	72675	S BENCHMARK? OR YARDSTICK? OR PROCEDUR?
S14	66558	S GUIDELINE? OR GUIDE()LINE? OR LAW OR LAWS OR CRITERIA? OR CRITERION?
S15	164264	S POLICY? OR POLICIES OR PREFEREN? OR PROPERT? OR REGULATION? OR PRINCIPLE?
S16	80353	S WEIGHT? OR PROBABILIT? OR EIGENWEIGHT?
S17	218632	S RELATED? OR KINSHIP? OR CORRELAT? OR SIMILAR? OR LIKENESS? OR ALIKE? OR CONGRUENT? OR IDENTICAL?
S18	159025	S CLOSENESS? OR RELEVAN? OR SIGNIFIC? OR FREQUEN? (2N)DISTRIBUT? OR NEARNESS? OR PROXIMIT?
S19	109998	S DEPENDEN? OR GERMANE? OR PERTINEN? OR PREPONDERAN? OR RELATIONSHIP?
S20	70451	S GROUPING? OR INFEREN? OR CORRESPOND?
S21	127257	S COMBINE? OR COMBINING? OR COMBINATION? OR BLEND? OR CONSOLIDAT? OR SYNTHESIZ? OR SYNTHESIS?
S22	89864	S INTEGRAT? OR COMMINGL? OR INTERMING? OR INTERMIX? OR COMMIX? OR AGGREGAT?
S23	267601	S NUMBER? OR TOTAL? OR COUNT? OR HOW()MANY OR QUANTIT? OR SUMMAR? OR DATACOUNT?
S24	119522	S SUM? ? OR ACCUMULAT? OR CUMULAT? OR (ADD? ? OR ADDED OR ADDING) ()UP OR CALCULAT? OR COMPUTE OR COMPUTED
S25	110340	S COMPUTING OR SUMMAT? OR TALLY? OR ACCOUNTING? OR COMPUTATION?
S26	40925	S AMASS? OR TOTTED OR COMPIL? OR AMOUNT? OR TALLY?
S27	136387	S SCORE? OR SCORING? OR GRADE? OR GRADING OR RATE? OR RATING?
S28	201271	S PREDICT? OR ANTICIPAT? OR FORETELL? OR FORETOLD? OR FUTURE? OR RECOGNI? OR INFER? OR DEDUCE? OR DEDUCTION? OR DEDUCING?
S29	37937	S NEURAL() (NET OR NETWORK?) OR (MACHINE? OR COMPUTER?) ()LEARN? OR ARTIFICIAL? ()INTELLIGENC? OR FUZZY() (LOGIC? OR INFERENC? OR THEOR?)
S30	126577	S FORESHADOW? OR PRESAG? OR FORESEE? OR FORESAW? OR PROGNOSTIC? OR DIVINAT? OR DIVINING? OR ESTIMAT? OR DISAMBIGUAT?
S31	100293	S AUGUR? OR FORECAST? OR PORTEND? OR PROPHE? OR GUESS? OR ASSUM? OR PRESUM? OR CONJECTUR? OR INTUIT? OR DIAGNOS?
S32	118143	S PREVIOUS? OR BEFORE? OR PAST OR PREDAT? OR ANTEDAT? OR PRECEDING? OR PRECEDE? OR PREDECESS? OR SUCCESSOR? OR ANCEST?
S33	108183	S FORMER OR ERSTWHILE? OR EARLIER? OR ANTECED? OR ORIGINAL? OR INITIAL? OR BETA? ? OR PREEXTANT? OR PREEXIST?
S34	69757	S PRESELECT? OR PREDETERMIN? OR PRECHOOS? OR PREDAT? OR PRELIMINAR? OR

BEFOREHAND? OR PREDEFIN? OR PRIOR OR ADVANC? OR PREDESIGNAT?

S35 11770 S S11 AND S8:S9 AND S12:S15 AND S16:S20 AND S21:S26 AND S27 AND (S28:S31 OR S32:S34)

S36 3974 S S35 AND S28:S31 AND S32:S34

S37 11770 S S35:S36

S38 3198 S S37 AND (S7 AND S27) (7N) S8:S9

S39 776 S S38 AND S21:S26 (5N) S16:S20

S40 1029 S S38 AND S36

S41 247 S S39 AND S40

S42 3198 S S38:S40

S43 315 S S42 AND S32:S34 (7N) S16:S20

S44 58 S S41 AND S43

S45 504 S S41 OR S43

S46 262 S S45 AND S12:S15 (7N) (S7 OR S27)

S47 140 S S45 AND S8:S9 (5N) S1:S6

S48 68 S S46 AND S47

S49 334 S S46:S47

S50 70 S S49 AND S21:S26 (5N) S16:S20 (10N) (S27 OR S7) (5N) S8:S9 AND S12:S15 (5N) (S7 OR S27)

S51 154 S S44 OR S48 OR S50

S52 137 S S51 AND PY=1970:2003

S53 137 S S51 NOT PY=2004:2006

S54 137 S S52:S53

S55 119 RD (unique items)

; show files

[File 2] **INSPEC** 1898-2006/Aug W1

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[File 6] **NTIS** 1964-2006/Aug W1

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[File 8] **Ei Compendex(R)** 1970-2006/Aug W1

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[File 34] **SciSearch(R) Cited Ref Sci** 1990-2006/Aug W1

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[File 35] **Dissertation Abs Online** 1861-2006/Jun

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[File 56] **Computer and Information Systems Abstracts** 1966-2006/Jul

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[File 60] **ANTE: Abstracts in New Tech & Engineer** 1966-2006/Jul

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[File 65] **Inside Conferences** 1993-2006/Aug 14

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[File 94] **JICST-EPlus** 1985-2006/May W1

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[File 99] **Wilson Appl. Sci & Tech Abs** 1983-2006/Jul

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[File 111] **TGG Natl.Newspaper Index(SM)** 1979-2006/Aug 02

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[File 144] **Pascal** 1973-2006/Jul W4

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[File 239] **Mathsci** 1940-2006/Oct

(c) 2006 American Mathematical Society. All rights reserved.

[File 256] **TecInfoSource** 82-2006/Nov

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Set	Items	Description
S1	2664950	DOCUMENT? OR OBJECT? OR DATASET? OR DATAOBJECT? OR HIT OR - HITS OR RESULT? OR RETRIEV?
S2	587832	OUTCOME? OR REPLY? OR REPLIE? OR REPORT? OR READING? OR FE- EDBACK? OR (FEED??? OR FED)()BACK?
S3	955819	SOFTWARE()OBJECT? OR DATABASE? OR DOMAIN? OR COLUMN? OR TA- BLE? OR DATAOBJECT? OR DATASTRUCTUR? OR DATAVALUE?
S4	60545	DATA()(ENTIT? OR STRUCTUR?) OR OBJECTMODEL? OR OBJECT()MOD- EL? OR DATARECORD? OR DATA()RECORD?
S5	8204	DATACOMMAND? OR DATAORDER? OR DATAUNIT? OR DATA()UNIT? OR - DATA()MESSAG? OR DATA()INSTRUCT
S6	95097	DATABYTE? OR DATABLOCK? OR DATA()(BLOCK? OR REQUEST? OR IN- PUT? OR TYPE? OR MEMBER? OR VALUE?) OR DATATYPE?
S7	343013	RANK? OR SORT??? OR PRIORIT? OR HIERARCH? OR HIERAT? OR TO- TEM()POLE? OR PECKING()ORDER? OR TAXONOM?
S8	119666	S1:S6 AND S7
S9	55506	QUERY? OR ASK OR ASKS OR ASKED OR ASKING OR INQUIR? OR INT- ERROGAT? OR DATAMIN? OR DATA()(MINE? OR MINING)
S10	3422301	SEARCH? OR FIND? OR LOCAT? OR RESEARCH? OR FETCH? OR LOOK?- ()UP OR LOOKUP? OR SELECT? OR CULL? OR FERRET?
S11	948516	S1:S6 AND S9:S10
S12	1016783	S8 OR S11
S13	207842	RULE? OR PROTOCOL? OR PARAMETER? OR TRAIT? OR CHARACTERIST- IC? OR MODEL? OR STANDARD?
S14	33181	BENCHMARK? OR YARDSTICK? OR PROCEDUR?
S15	12910	GUIDELINE? OR GUIDE()LINE? OR LAW OR LAWS OR CRITERIA? OR - CRITERION?
S16	88098	POLICY? OR POLICIES OR PREFEREN? OR PROPERT? OR REGULATION? OR PRINCIPLE?
S17	73002	WEIGHT? OR PROBABILIT? OR EIGENWEIGHT?
S18	132792	RELATED? OR KINSHIP? OR CORRELAT? OR SIMILAR? OR LIKENESS? OR ALIKE? OR CONGRUENT? OR IDENTICAL?
S19	58673	CLOSENESS? OR RELEVAN? OR SIGNIFIC? OR FREQUEN?(2N)DISTRIB- UT? OR NEARNESS? OR PROXIMIT?
S20	50099	DEPENDEN? OR GERMANE? OR PERTINEN? OR PREPONDERAN? OR RELA- TIONSHIP?
S21	220534	GROUPING? OR INFEREN? OR CORRESPOND?
S22	137122	COMBINE? OR COMBINING? OR COMBINATION? OR BLEND? OR CONSOL- IDAT? OR SYNTHESIZ? OR SYNTHESIS?
S23	51789	INTEGRAT? OR COMMINGL? OR INTERMING? OR INTERMIX? OR COMMI- X?
S24	284767	NUMBER? OR TOTAL? OR COUNT? OR HOW()MANY OR QUANTIT? OR SU- MMAR? OR DATACOUNT?
S25	110523	SUM? ? OR ACCUMULAT? OR CUMULAT? OR (ADD? ? OR ADDED OR AD- DING)()UP OR CALCULAT? OR COMPUTE OR COMPUTED
S26	33000	COMPUTING OR SUMMAT? OR TALLY? OR ACCOUNTING? OR COMPUTATI- ON?
S27	102055	AMASS? OR TOTTED OR COMPIL? OR AMOUNT? OR TALLY?
S28	75221	SCORE? OR SCORING? OR GRADE? OR GRADING OR RATE? OR RATING?
S29	78639	PREDICT? OR ANTICIPAT? OR FORETELL? OR FORETOLD? OR FUTURE? OR RECOGNI? OR INFER? OR DEDUCE? OR DEDUCTION? OR DEDUCING?
S30	3260	NEURAL()(NET OR NETWORK?) OR (MACHINE? OR COMPUTER?)()LEAR- N? OR ARTIFICIAL?()INTELLIGENC? OR FUZZY()(LOGIC? OR INFERENC? OR THEOR?)
S31	20189	FORESHADOW? OR PRESAG? OR FORESEE? OR FORESAW? OR PROGNOST- IC? OR DIVINAT? OR DIVINING? OR ESTIMAT? OR DISAMBIGUAT?
S32	43105	AUGUR? OR FORECAST? OR PORTEND? OR PROPHE? OR GUESS? OR A- SSUM? OR PRESUM? OR CONJECTUR? OR INTUIT? OR DIAGNOS?
S33	236487	IC=G06F?
S34	207820	MC=T01?

S35	51399	S12 AND S7 AND S9:S10
S36	17756	S35 AND S17:S21 AND S22:S27
S37	2447	S36 AND S28
S38	4521	S36 AND S29:S32
S39	810	S37 AND S38
S40	428	S39 AND S33:S34
S41	810	S39:S40
S42	371	S41 AND (S7 OR S28) (5N) (S1:S6 OR S9:S10)
S43	588	S41 AND S13:S16
S44	563	S41 AND (S22:S27 OR S28 OR S7) (5N) (S17:S21 OR S9:S10)
S45	443	S43 AND (S42 OR S44)
S46	142	S45 AND S28(5N) (S7 OR S9:S10)
S47	13	S45 AND S29:S32(5N)S7(5N)S1:S6(5N)S9:S10
S48	69	S41 AND S29:S32(10N)S7 AND S1:S6(5N) (S7 OR S9:S10)
S49	225	S42 AND S43 AND S44
S50	91	S46 AND S33:S34
S51	225	S49 AND S28 AND S29:S32 AND S17:S21 AND S22:S27
S52	119	S46 AND (S49 OR S51)
S53	185	S47 OR S48 OR S50 OR S52
S54	139	S53 AND AC=US/PR
S55	128	S54 AND AY=(1970:2003)/PR
S56	115	S54 NOT AY=(2004:2006)/PR
S57	46	S53 NOT S54
S58	35	S57 AND PY=1970:2003
S59	16	S57 NOT PY=2004:2006
S60	164	S55:S56 OR S58:S59
S61	164	IDPAT (sorted in duplicate/non-duplicate order)

File 347:JAPIO Dec 1976-2005/Dec(Updated 060404)

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File 350:Derwent WPIX 1963-2006/UD=200651

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61/3,K/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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0014189149 - Drawing available

WPI ACC NO: 2004-374561/

XRAM Acc No: C2004-140848

XRPX Acc No: N2004-298007

Designing material that most closely matches desired set of properties ,  
e.g. engineering thermoplastic material, comprises obtaining input  
parameter and retrieving actual property values for existing runs from  
global data repository

Patent Assignee: AMLADI V (AMLA-I); DOGANAKSOY N (DOGA-I); GARDNER M M  
(GARD-I); GENERAL ELECTRIC CO (GENE); MISHRA S (MISH-I); REDDY D D  
(REDD-I); SAINI P (SAIN-I)

Inventor: AMLADI V; DOGANAKSOY N; GARDNER M M; MISHRA S; REDDY D D; SAINI P

Patent Family (3 patents, 33 countries)

Patent			Application			
Number	Kind	Date	Number	Kind	Date	Update
US 20040083083	A1	20040429	US 2002281658	A	20021028	200435 B
EP 1416403	A2	20040506	EP 2003256822	A	20031028	200435 E
JP 2004158008	A	20040603	JP 2003366753	A	20031028	200436 E

Priority Applications (no., kind, date): US 2002281658 A 20021028

#### Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20040083083	A1	EN	17	6	
EP 1416403	A2	EN			

Regional Designated States,Original: AL AT BE BG CH CY CZ DE DK EE ES FI  
FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR  
JP 2004158008 A JA 27

Designing material that most closely matches desired set of properties ,  
e.g. engineering thermoplastic material, comprises obtaining input  
parameter and retrieving actual property values for existing runs from  
global data repository

#### Original Titles:

...Systems and methods for designing a new material that best matches a  
desired set of properties

...

...SYSTEM AND METHOD FOR DESIGNING NEW MATERIAL BEST MATCHING DESIRED SET  
OF CHARACTERISTIC

...

...Systems and methods for designing a new material that best matches an  
desired set of properties

**Alerting Abstract ...NOVELTY** - Designing a material that most closely  
matches a desired set of properties comprises obtaining input parameter  
(s) from a user; retrieving actual property values for preliminary  
matching existing experimental run(s) from a global data repository;  
determining how well each run matches a desired set of property values;  
and outputting the results to the user....for a system for designing a  
material that most closely matches a desired set of properties comprising  
a mechanism for obtaining input parameter (s) from a user; a mechanism for  
retrieving actual property values for preliminary matching existing

experimental run(s) from a global data repository; a material **selection** algorithm operable for determining how well each preliminary matching existing experimental run matches a desired set of **property** values; and a mechanism for outputting the **results** to the user...

...USE - For formulating an experimental **grade** engineering thermoplastic material, a developmental **grade** engineering thermoplastic material or a commercial **grade** engineering thermoplastic material (claimed...

...identifies which existing experimental run or newly created material best matches a desired set of **properties** so that product development time can be minimized...

...DESCRIPTION OF DRAWINGS - The figure is a flowchart showing the material **properties** retrieval and overall match **score** calculations that are performed in the invention.

#### Technology Focus

INSTRUMENTATION AND TESTING - Preferred Method: The determining step comprises **scoring** each **property** value of each run to create a **scored property** value; and **calculating** an overall match **score** for each preliminary matching existing experimental run. **Calculating** an overall match **score** comprises **weighting** each **scored property** value by taking a **weight** value for each **property** into account to create a **weighted scored property** value; multiplying each **weighted scored property** value together; and raising the multiplied **quantity** to  $1/(\text{sum of all the priorities})$ . The preliminary matching existing experimental runs are **sorted** by their respective overall match **scores** prior to outputting the **results** to the user. The runs are **sorted** in descending order based on their respective overall match **scores**. At least one new material that may more closely match the desired set of **properties** than any existing experimental run is **predicted**. Each **property** value of each new material is **scored** to create a **scored property** value. An overall match **score** for each new material is **calculated**. The **predicting** step comprises applying a transfer function to **predict** the new material that may more closely match the desired set of **properties** than any existing experimental run. If at least one input **parameter** obtained from the user is maximize the **property** and if the actual **property** value is less than a minimum acceptable **property** value, then the **scored property** value is 0. If at least one input **parameter** obtained from the user is maximize the **property** value and if the actual **property** value is greater than a maximum acceptable **property** value, then the **scored property** value is 1. If at least one input **parameter** obtained from the user is maximize the **property** value and if the actual **property** value is not less than a minimum acceptable value and not greater than a maximum acceptable **property** value, then the **scored property** value may be calculated using the desirability function  $[(APV-MIN)/(MAX-MIN)]$  raised to the  $x$ , wherein APV is actual **property** value, MAX is user-specified maximum acceptable **property** value, MIN is user-specified minimum acceptable **property** value, and  $x$  is the **weight** value. If at least one input **parameter** obtained from the user is minimize the **property** value and if the actual **property** value is greater than a maximum acceptable **property** value, then the **scored property** value is 0. If at least one input **parameter** obtained from the user is minimize the **property** value, and if the actual **property** value is less than a minimum acceptable **property** value, then the **scored property** value is 1. If at least one input **parameter** obtained from the user is minimize the **property** value and if

the actual property value is not greater than a maximum acceptable property value and not less than a minimum acceptable property value, then the scored property value may be calculated using the desirability function  $[(MAX-APV)/(MAX-MIN)]$  raised to the x. If at least one input parameter obtained from the user is hit a target point value for the property value and if APV is greater than or equal to DPV and APV is less than or equal to MAX, then the scored property value may be calculated using the desirability function  $[(MAX-APV)/(MAX-DPV)]$  raised to the x where DPV is user-specified desired property value. If at least one input parameter obtained from the user is hit a target point value for the property value and if the actual property value is greater than a maximum acceptable property value, then the scored property value is 0. If at least one input parameter obtained from the user is hit a target point value for the property value and if APV is less than or equal to DPV and greater than or equal to MIN, then the scored property value may be calculated using the desirability function  $[(APV-MIN)/(DPV-MIN)]$  raised to the x. If at least one input parameter obtained from the user is hit a target point value for the property value and if the actual property value is less than a minimum acceptable property value, then the scored property value is 0. If at least one input parameter obtained from the user is keep the property value within a given range of acceptable property values, and if  $MIN \leq APV \leq MAX$ , then the scored property value is 1. If at least one input parameter obtained from the user is to keep the property value within a given range of acceptable property values, and if APV is greater than MAX or APV is less than MIN, then the scored property value is 0. If a high priority exists for a property, a priority value of 5 is assigned to that property. If a medium priority exists for a property, a priority value of 3 is assigned to that property. If a low priority exists for a property, a priority value of 1 is assigned to that property. The overall match score is calculated using the formula (I). Equation (I), page 9 claim 27 Preferred Parameters; The input parameter comprises a specific raw material to search for, a design space to retain for advanced searching, a design space to retain for scoring, a property to be searched, units for each property to be searched, acceptable property values for each property to be searched, a goal for each property to be searched, or a priority value for each property to be searched. The goal for each property value to be searched comprises maximize the property value, minimize the property value, hit a target point value for the property value, or keep the property value within a given range of acceptable property values. The priority value for each property to be searched comprises high, medium or low...

Title Terms.../Index Terms/Additional Words: PROPERTIES ; ...

... PARAMETER ; ...

... RETRIEVAL ;

#### Class Codes

International Classification (Main): G06F-017/50 ...

... G06F-019/00

Manual Codes (EPI/S-X): T01-J

Original Publication Data by Authority



#### **Original Abstracts:**

...identifying which existing experimental run, or newly-created material, best matches a desired set of **properties** are described so that product development time can be minimized. Users may input the **properties** they desire in a material, the acceptable values of those **properties**, the goals for each **property**, and a **priority** value for each **property**. Preliminary matching existing experimental runs may be **retrieved** from an experimental run **database**. One of four desirability functions may then be utilized to **calculate** a **scored property** value for each **property** of each existing experimental run. The **scored property** value may then be **weighted** to account for the **priority** value assigned to each **property**. The **results** may then be **sorted** in descending order based on their overall match **scores**, and output to the user so the best matching existing experimental run(s) is readily identifiable by the user. Additionally, new materials may be **predicted**, **scored**, **weighted** and **sorted** so that a better match of the desired **properties** may be created ...

...identifying which existing experimental run, or newly-created material, best matches a desired set of **properties** are described so that product development time can be minimized. Users may input the **properties** they desire in a material, the acceptable values of those **properties**, the goals for each **property**, and a **priority** value for each **property**. Preliminary matching existing experimental runs may be **retrieved** from an experimental run **database**. One of four desirability functions may then be utilized to **calculate** a **scored property** value for each **property** of each existing experimental run. The **scored property** value may then be **weighted** to account for the **priority** value assigned to each **property**. The **results** may then be **sorted** in descending order based on their overall match **scores**, and output to the user so the best matching existing experimental run(s) is readily identifiable by the user. Additionally, new materials may be **predicted**, **scored**, **weighted** and **sorted** so that a better match of the desired **properties** may be created.

#### **Claims:**

A method for designing a material that most closely matches a desired set of **properties**, the method comprising: obtaining at least one input **parameter** from a user; **retrieving** actual **property** values for at least one preliminary matching existing experimental run from a global data repository; determining how well each preliminary matching existing experimental run matches a desired set of **property** values; and outputting the results to the user...

...is: b 1 /b . A method for designing a material that most closely matches a desired set of **properties**, the method comprising: obtaining at least one **input** parameter from a **user**; **retrieving** actual **property** values for at least one preliminary matching existing experimental run from a global data repository; determining how well each preliminary matching existing experimental run matches a desired set of **property** values; and **outputting** the results to the user.

61/3,K/12 (Item 12 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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0014638615 - Drawing available

WPI ACC NO: 2004-820615/

XRPX Acc No: N2004-647857

Estimation of probability of future event for intellectual property assets, involves constructing model or algorithm using metrics identifying/quantifying characteristics of intellectual property assets for which event has/has not occurred

Patent Assignee: BARNEY J A (BARN-I)

Inventor: BARNEY J A

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20040220842	A1	20041104	US 2003425554	A	20030429	200481 B

Priority Applications (no., kind, date): US 2003425554 A 20030429

#### Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20040220842	A1	EN	29	12	

Estimation of probability of future event for intellectual property assets, involves constructing model or algorithm using metrics identifying/quantifying characteristics of intellectual property assets for which event has/has not occurred

#### Original Titles:

Method and system for rating patents and other intangible assets

**Alerting Abstract ...NOVELTY** - A predictive model or algorithm is constructed based on prestored series of data comprising selected metrics identifying/quantifying certain selected characteristics of intellectual property assets for which the event has/has not occurred, to generate an output score or estimated probability. The data comprising selected metrics related to assets of interest are added to algorithm, to estimate probability of future event....event probability report; automated method for enabling a user to access and operate a predetermined predictive computer model or algorithm to score or rate patents; method for estimating or rating the probability of a future event relative to a patent or group of patents ...

...USE - For estimating the probability of a future event occurring relative to a particular identified intellectual property asset or group of intellectual property assets of interest, patent or group of patents, for use by patent valuation experts, investment advisors, economists and others to help guide future patent investment decisions, licensing programs, patent appraisals, tax valuations, transfer pricing, economic forecasting and planning, mediation and/or settlement of patent litigation lawsuits...

...ADVANTAGE - Eliminates the need for collecting comparative market data of existing patent portfolios or calculating future hypothetical income streams or royalty rates, thereby enabling accurate statistical

valuations, ratings or rankings .

...

...DESCRIPTION OF DRAWINGS - The figure shows a flowchart explaining the process for **estimating** the **probability** of a **future** event occurring relative to intellectual **property** assets.

Title Terms/Index Terms/Additional Words: **ESTIMATE** ; ...

... **PROBABILITY** ; ...

... **FUTURE** ; ...

... **PROPERTIES** ; ...

... **MODEL** ; ...

... **CHARACTERISTIC** ;

#### Class Codes

International Classification (Main): **G06F-017/60**

(Additional/Secondary): **G06F-101/14** ...

... **G06F-015/00** ...

... **G06F-017/18**

Manual Codes (EPI/S-X): **T01-N01A2F** ...

... **T01-S03**

#### Original Publication Data by Authority

#### Original Abstracts:

A statistical patent **rating** method and system is provided for independently assessing the relative breadth ("B"), defensibility ("D") and commercial **relevance** ("R") of individual patent assets and other intangible intellectual **property** assets. The invention provides new and valuable information that can be used by patent valuation experts, investment advisors, economists and others to help guide **future** patent investment decisions, licensing programs, patent appraisals, tax valuations, transfer pricing, economic **forecasting** and planning, and even mediation and/or settlement of patent litigation lawsuits. In one embodiment the invention provides a statistically-based patent **rating** method and system whereby relative **ratings** or **rankings** are generated using a **database** of patent information by identifying and comparing various **characteristics** of each individual patent to a statistically determined distribution of the same **characteristics** within a given patent population. For example, a first population of patents having a known...

...e.g. unsuccessfully litigated patents). Based on a statistical comparison of the two populations, certain **characteristics** are identified as being more prevalent or more pronounced in one population group or the other to a statistically **significant** degree. Multiple such statistical comparisons are used to construct and optimize a computer **model** or computer algorithm that can then be used to **predict** and/or provide statistically-accurate **probabilities** of a desired value or quality being present or a **future** event occurring, given the identified

characteristics of an individual patent or group of patents.

**Claims:**

What is claimed is: b 1 /b . A method for estimating the probability of a future event occurring relative to a particular identified intellectual property asset or group of intellectual property assets of interest, comprising: storing a first series of data comprising selected metrics identifying and/or quantifying certain selected characteristics of a first population of intellectual property assets for which the event has occurred; storing a second series of data comprising selected metrics identifying and/or quantifying said selected characteristics of a second population of intellectual property assets for which the event has not occurred or for which it is undetermined whether the event has occurred; constructing a predictive computer model or algorithm based on said stored first and second series of data, said algorithm being operable to retrieve said first and second series of stored data and to perform certain mathematical or statistical calculations thereon to generate an output score or estimated probability that is generally predictive of the event having either occurred or not occurred relative to each intellectual property asset in said first or second populations of intellectual property assets; and providing as input to said algorithm a third series of data comprising selected metrics identifying and/or quantifying certain selected characteristics of said particular identified intellectual property asset or group of intellectual property assets of interest and operating said computer model to calculate a relative ranking or estimated probability of the event occurring in the future relative to said identified intellectual property asset or group of intellectual property assets of interest.

61/3,K/23 (Item 23 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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0014020988 - Drawing available  
WPI ACC NO: 2004-202693/  
Related WPI Acc No: 2002-643052  
XRPX Acc No: N2004-161183

**Desired items e.g. document recommendations list generating method for data mining purposes e.g. detecting user community, involves returning recommendation list of desired items that are ranked based on probability of relevance**

Patent Assignee: HOFMANN T (HOFM-I); PUZICHA J C (PUZI-I)

Inventor: HOFMANN T; PUZICHA J C

**Patent Family (1 patents, 1 countries)**

Patent			Application			
Number	Kind	Date	Number	Kind	Date	Update
US 20040034652	A1	20040219	US 2000220926	P	20000726	200419 B
			US 2001915755	A	20010726	
			US 2003639024	A	20030811	

Priority Applications (no., kind, date): US 2001915755 A 20010726; US 2000220926 P 20000726; US 2003639024 A 20030811

#### Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20040034652	A1	EN	26	15	Related to Provisional US 2000220926 Continuation of application US 2001915755

**Desired items e.g. document recommendations list generating method for data mining purposes e.g. detecting user community, involves returning recommendation list of desired items that are ranked based on probability of relevance**

#### Original Titles:

System and method for personalized search , information filtering, and for generating recommendations utilizing statistical latent class models

**Alerting Abstract ...NOVELTY** - The method involves receiving actual user profiles (111) a user query and a request to generate a recommendation list containing items that are ranked by their likelihood of being the desired items into a recommendation system. A probability of relevance for each item in data utilizing received models and data is computed . The list is returned so that each list has a ranked list of desired items based on the probability . **DESCRIPTION** - An INDEPENDENT CLAIM is also included for a personalized search engine system for creating a recommendation list of desired items for a user...

...USE - Used for generating recommendations list of desired items e.g. product, and document for data mining purposes e.g. identifying user communities...

...ADVANTAGE - The method returns the recommendation list of desired items that are ranked based on probability of relevance and thus the method effectively predicts the sufficient number of users who share all interests of desired items...

...DESCRIPTION OF DRAWINGS - The drawing shows a schematic representation illustrating the information aggregation and **integration** of a personalized **search** engine system for creating a recommendation list of desired items for a user...

Title Terms.../Index Terms/Additional Words: **DOCUMENT** ; ...

... **RANK** ; ...

... **PROBABILITY** ; ...

... **RELEVANT**

#### Class Codes

International Classification (Main): **G06F-017/00**

Manual Codes (EPI/S-X): **T01-J05B2** ...

... **T01-N02A3C** ...

... **T01-N02B2A** ...

... **T01-N03A2** ...

... **T01-N03B2**

#### Original Publication Data by Authority

#### Original Abstracts:

...information and automated generation of user-specific recommendations. The system uses a statistical latent class **model**, also known as Probabilistic Latent Semantic Analysis, to **integrate** data including textual and other content descriptions of items to be **searched**, user profiles, demographic information, **query** logs of previous **searches**, and explicit user **ratings** of items. The disclosed system learns one or more statistical **models** based on available data. The learning may be reiterated once additional data is available. The statistical **model**, once learned, is utilized in various ways: to make **predictions** about item **relevance** and user **preferences** on un-**rated** items, to generate recommendation lists of items, to generate personalized **search** result lists, to disambiguate a users **query**, to refine a **search**, to **compute similarities** between items or users, and for **data mining** purposes such as identifying user communities.

#### Claims:

...set of data including items, content descriptors for the items, user profiles about transactions, prior **searches**, user **ratings** or user actions, to generate a recommendation list of desired items, comprising the following steps:receiving into the recommendation system a set of statistical latent class **models** along with appropriate **model combination weights**, each possible **combination** of items, content descriptors, users, **object** or user attributes, and **preferences** being assigned a **probability** indicating the likelihood of that particular **combination**;receiving into the recommendation system at least one of: an actual user profile;a user **query**; and a request to generate at least one recommendation list, items in the recommendation list being **ranked** by their likelihood of being the desired items; **computing** a **probability** of

**relevance** for each item in the set of data utilizing the received set of **models** and data; returning at least one recommendation list, each recommendation list having a variable length and consisting of a **ranked** list of desired items, the items being **ranking** based on the **computed probability** of **relevance**.